SRF-R405

SERVICE MANUAL

Tourist Model

Ver 1.0 1999. 04

SPECIFICATIONS

Frequency range

Band	Frequency range	Channel step
FM	76 – 108 MHz	0.1 MHz
AM	530 – 1,710 kHz	9 kHz/10 kHz

Speaker Approx.2.8 cm ($1^1/_8$ inches) dia., 7.2 Ω
Output 🎧 (headphone) jack
(∅3.5 mm, stereominijack)
Power output
80 mW (at 10% harmonic distortion)
Power requirements
3 V, DC two R03 (size AAA) batteries
Power Auto Off function
Approx.30 minutes, 60 minutes,
90 minutes,120 minutes, and off
Dimensions Approx. 55 × 98 × 17 mm(w/h/d)
($2^1/_4 \times 3^7/_8 \times {}^{11}/_{16}$ inches) not incl.
projecting parts and controls
Approx. 59.2 × 98.2 × 17.8 mm(w/h/d)
($2^3/_8 \times 3^7/_8 \times {}^{23}/_{32}$ inches) incl.
projecting parts and controls
Mass Approx. 89 g (3.1 oz) incl. batteries
Accessories Batteries (2)
Carrying case (1)

Design and specifications are subject to change without notice.

FM STEREO/AM PLL SYNTHESIZED RADIO

MICROFILM

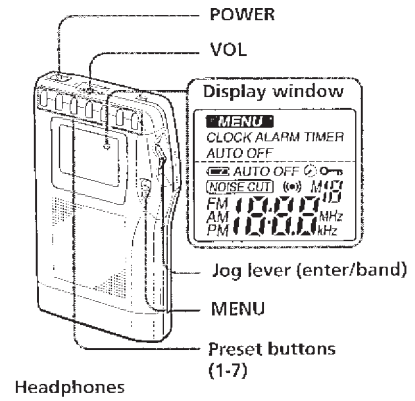
SONY®

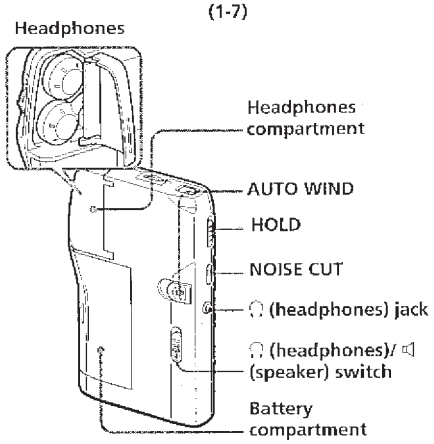
SECTION 1
GENERAL

This section is extracted from instruction manual.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.



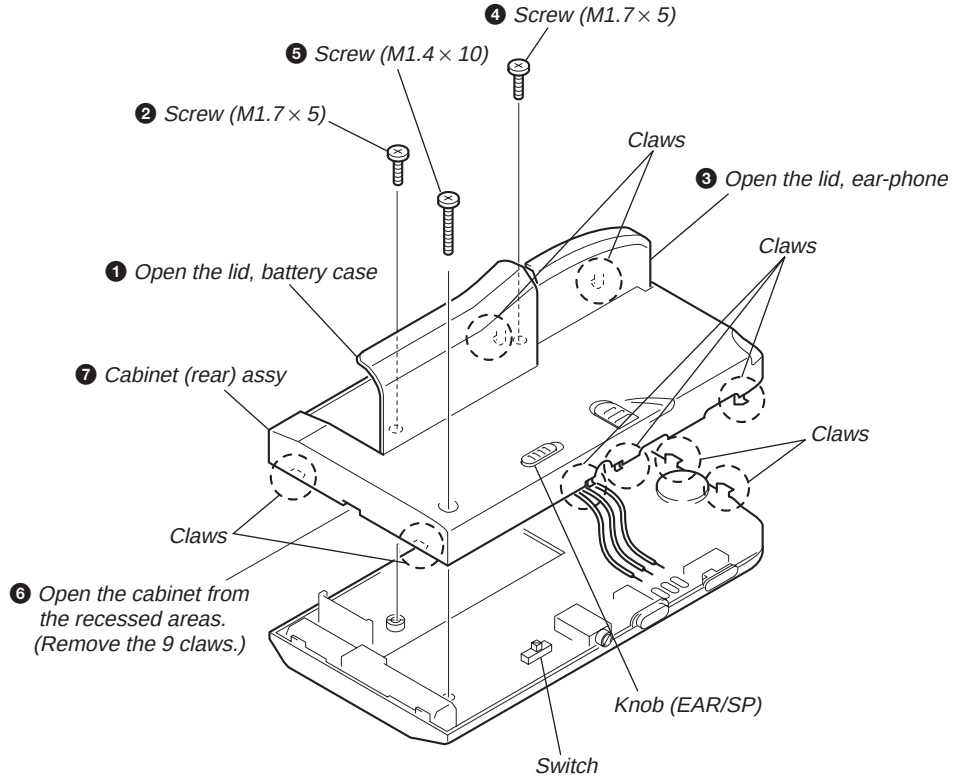


SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

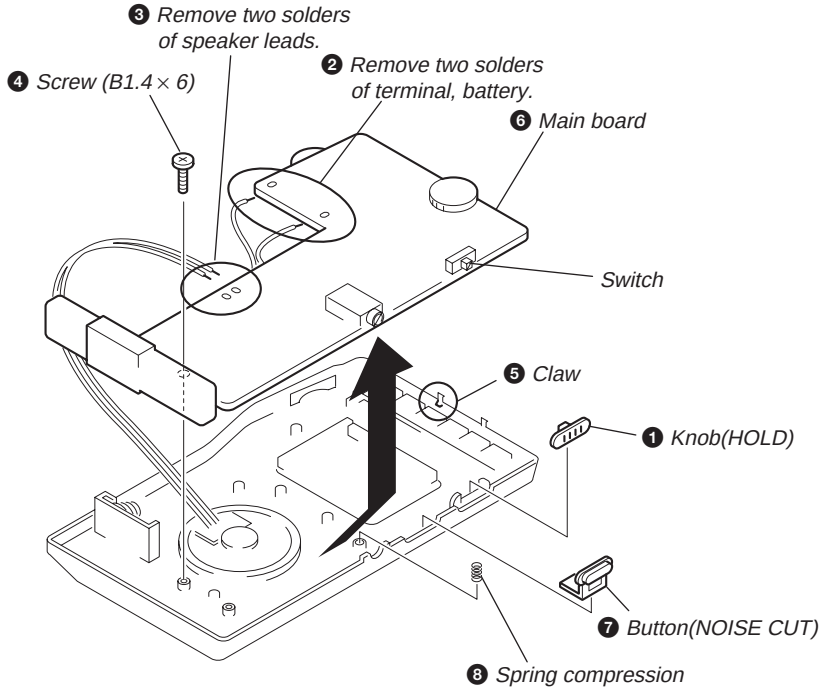
2-1. CABINET (REAR) ASSY

Note : On installation of cabinet (rear), adjust the knob (earphone/speaker) and switch positions until they agree.



2-2. MAIN BOARD

Note : On installation of cabinet (rear), adjust the knob (earphone/speaker) and switch positions until they agree.



SECTION 3
ELECTRICAL ADJUSTMENTS

TUNER SECTION

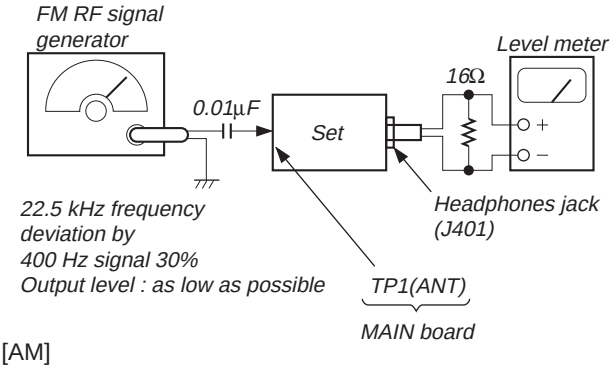
0 dB = 1 µV

[FM]

Setting

ENT/BAND switch : FM

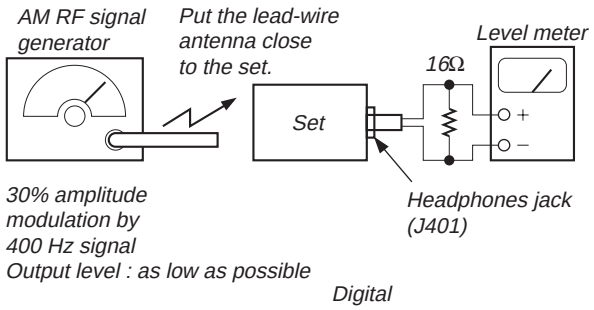
Signal generator

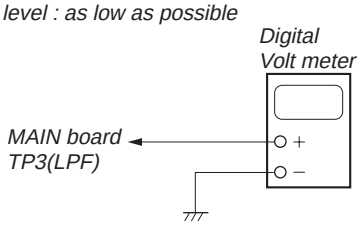


[AM]

Setting

ENT/BAND switch : AM





- Repeat the procedures in each adjustment several times for a maximum reading on level meter, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L202	76.0MHz
CT202	108.0MHz

AM VCO ADJUSTMENT	
Adjust so that the voltage at TP3(LPF) becomes 2.60 ±0.05V.	
L205	531kHz

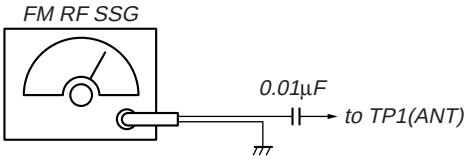
AM IF ADJUSTMENT	
Adjust for a maximum reading on level meter.	
T201	450kHz

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L201	585kHz
CT201	1,485kHz

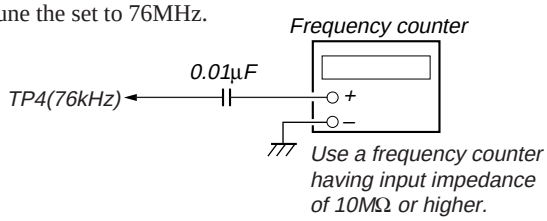
FM STEREO (76kHz) ADJUSTMENT		
Adjustment point	Frequency Indication	Frequency counter Reading
RV301	FM76MHz	76kHz ±200Hz

FM STEREO (76kHz)

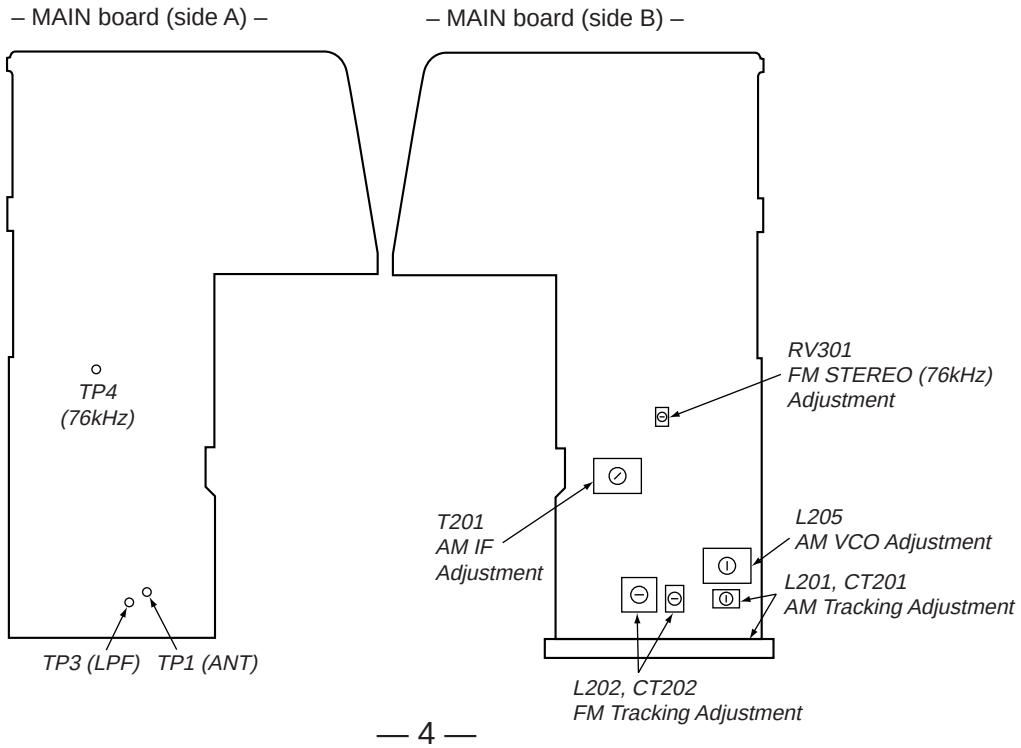
Procedure :



1. Connect frequency counter to the positions shown below.
2. Tune the set to 76MHz.

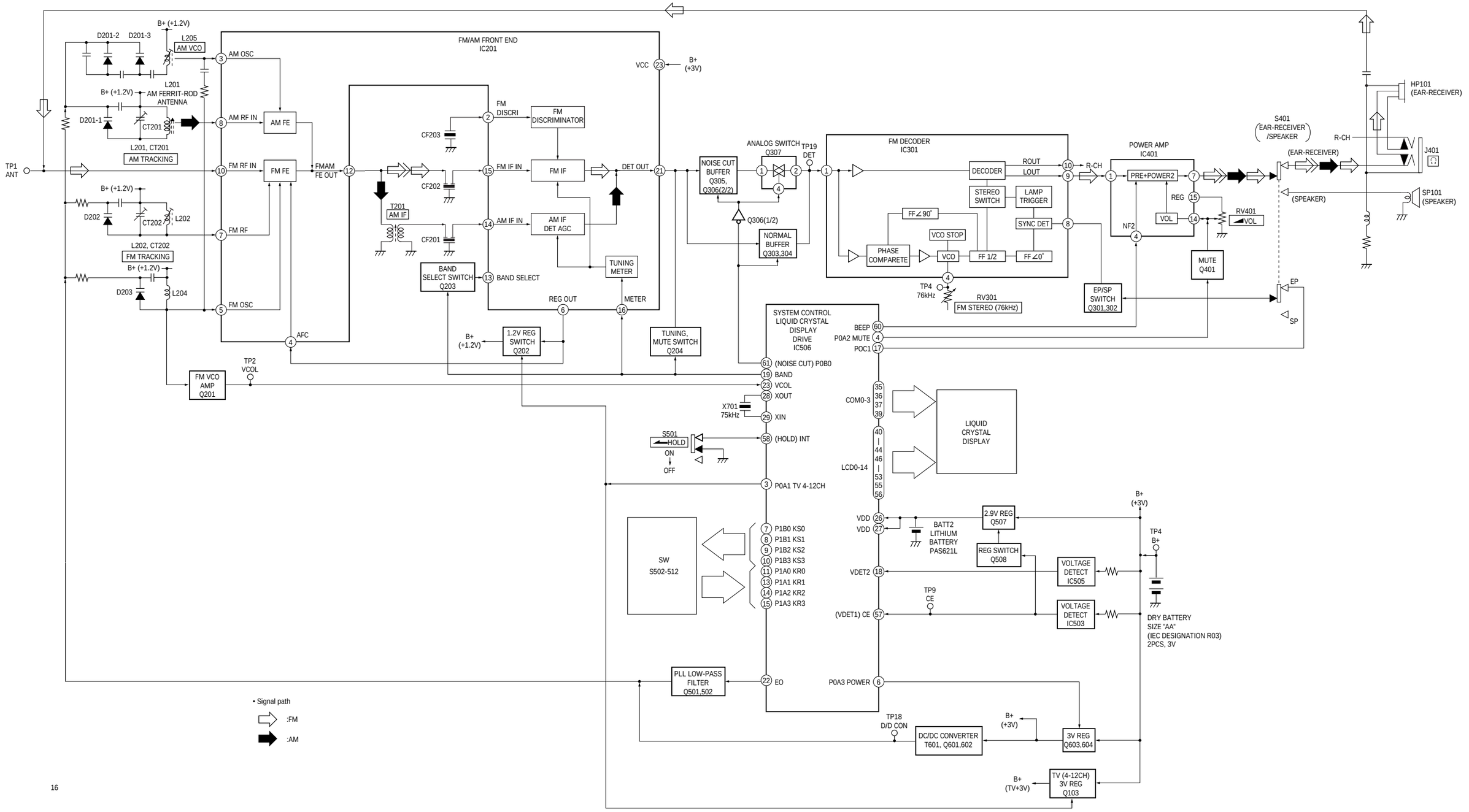


Adjustment Location :


– MAIN board (side A) –
– MAIN board (side B) –
TP4 (76kHz)
TP3 (LPF)
TP1 (ANT)
RV301 FM STEREO (76kHz) Adjustment
T201 AM IF Adjustment
L205 AM VCO Adjustment
L201, CT201 AM Tracking Adjustment
L202, CT202 FM Tracking Adjustment

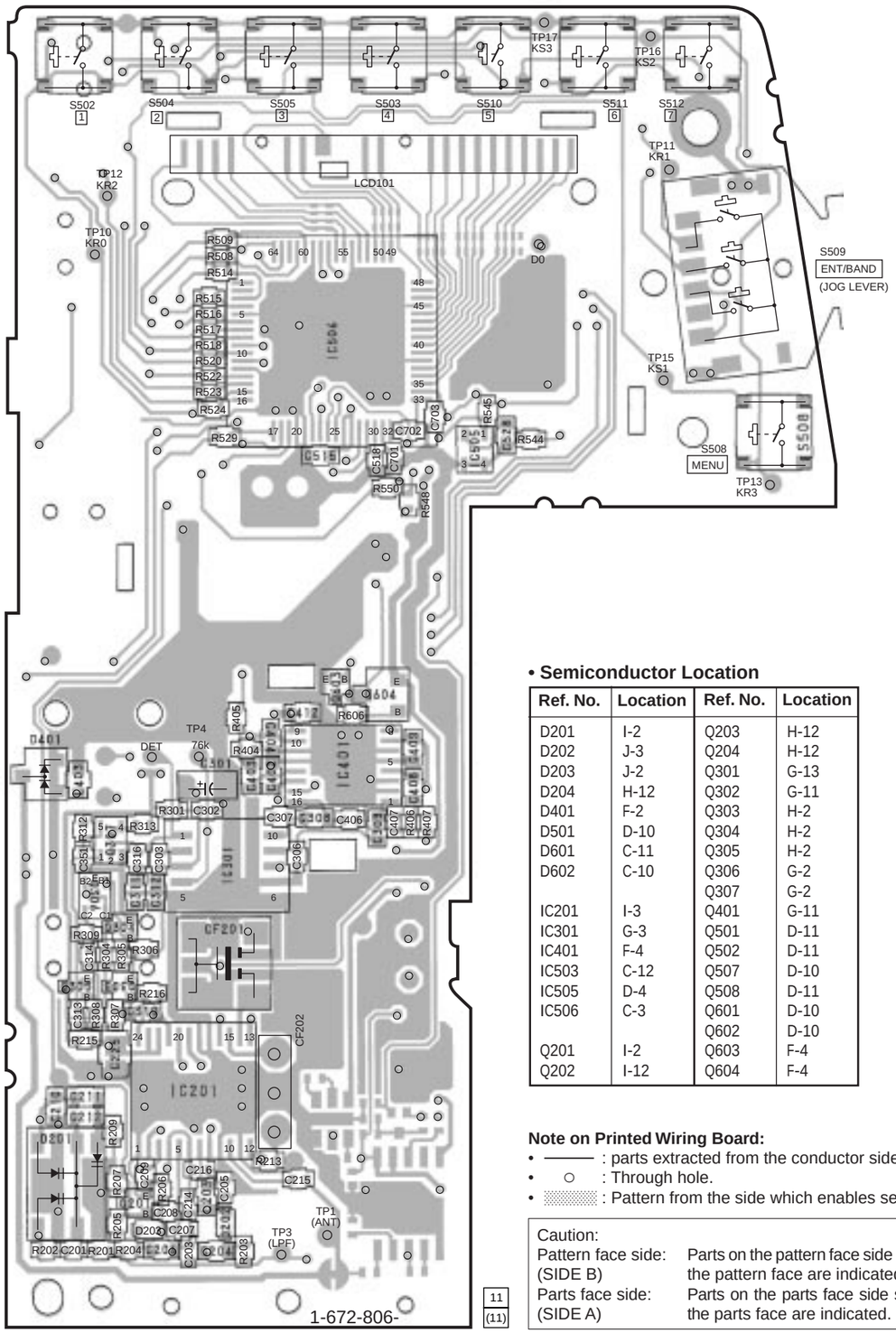
SECTION 4
DIAGRAMS

4-1. BLOCK DIAGRAM

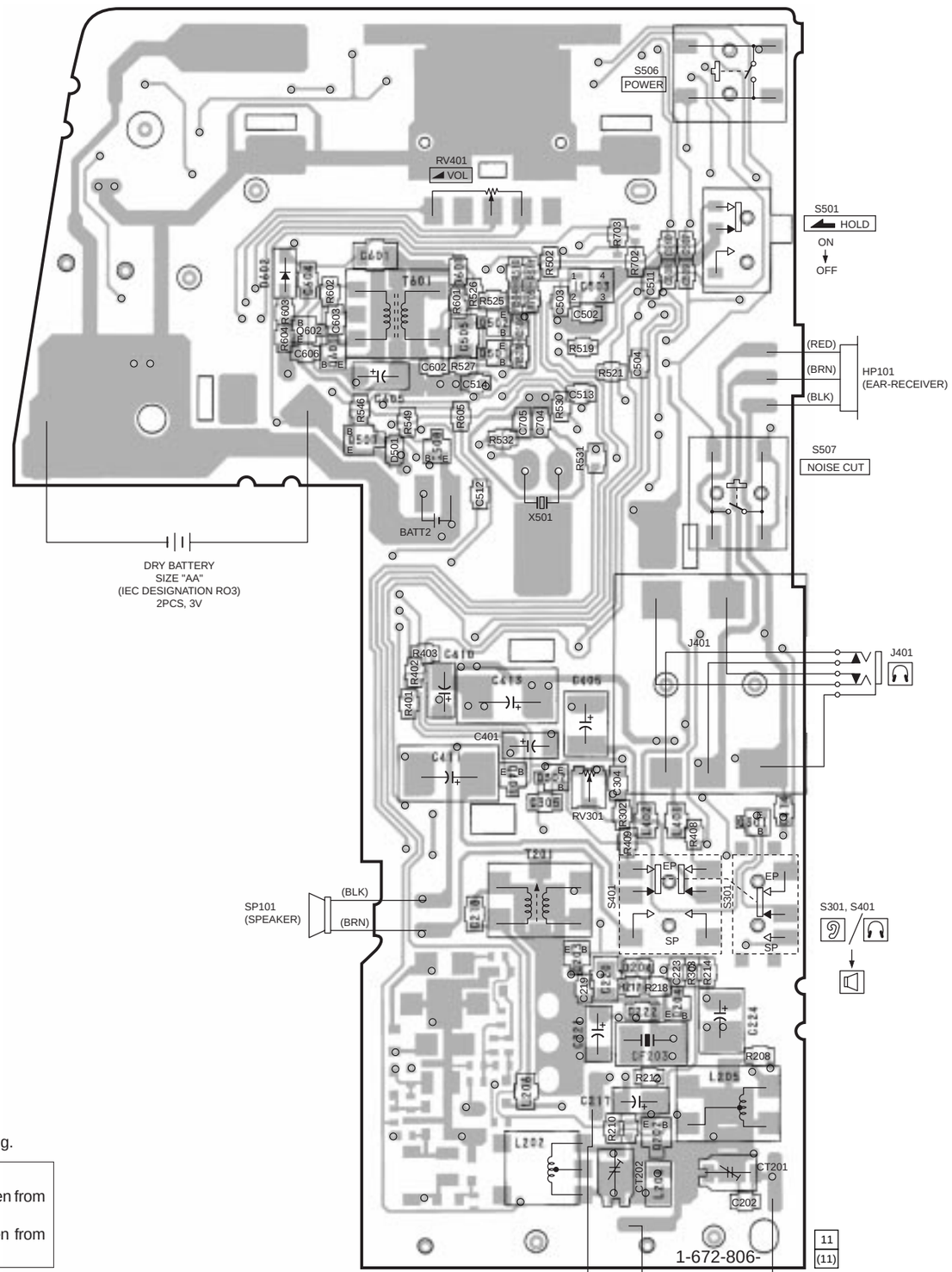


4-2. PRINTED WIRING BOARD

【MAIN BOARD】(SIDE A)



【MAIN BOARD】(SIDE B)



• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D201	I-2	Q203	H-12
D202	J-3	Q204	H-12
D203	J-2	Q301	G-13
D204	H-12	Q302	G-11
D401	F-2	Q303	H-2
D501	D-10	Q304	H-2
D601	C-11	Q305	H-2
D602	C-10	Q306	G-2
		Q307	G-2
IC201	I-3	Q401	G-11
IC301	G-3	Q501	D-11
IC401	F-4	Q502	D-11
IC503	C-12	Q507	D-10
IC505	D-4	Q508	D-11
IC506	C-3	Q601	D-10
		Q602	D-10
Q201	I-2	Q603	F-4
Q202	I-12	Q604	F-4

Note on Printed Wiring Board:

- ——— : parts extracted from the conductor side.
- ○ : Through hole.
- ▒▒▒ : Pattern from the side which enables seeing.

Caution:	
Pattern face side: (SIDE B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (SIDE A)	Parts on the parts face side seen from the parts face are indicated.

16 1-672-806-11 (11)

1-672-806-11 (11)

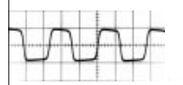
【MAIN BOARD】

Note on Schematic Diagram:

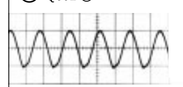
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- B+ : B+ Line.
- ▬ : adjustment for repair.
- Power voltage is dc 3 V and fed with regulated dc power supply from battery terminal.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ➡ : AM

• Waveform

① IC506 ㉘ (X OUT)



② Q601 ⓒ



4-4. IC PIN FUNCTION

• IC506 µPD17073GB-921-9EU (System Control, LCD Drive)

Pin No.	Pin Name	I/O	Description
1	DATA OUT	O	Serial data output terminal (Not used: open)
2	EEPROM CS	O	Chip selection output to EEPROM (Not used: open)
3	TV 4-12CH	O	Band switching output “H”: TV (4 to 12 channels), “L”: FM/TV (1 to 3 channels)/AM (Not used: open)
4	MUTE	O	Audio mute signal output
5	NC	–	Not used (Ground)
6	POWER	O	Power ON/OFF control output
7	KS0	O	Key strobe signal output. *1
8	KS1	O	Key strobe signal output. *1
9	KS2	O	Key strobe signal output. *1
10	KS3	O	Key strobe signal output. *1
11	KR0	I	Key return signal input. *1
12	NC	–	Not used (Ground)
13	KR1	I	Key return signal input. *1
14	KR2	I	Key return signal input. *1
15	KR3	I	Key return signal input. *1
16	POC0	O	Meter drive signal output (Not used: ground)
17	POC1	O	TV mode control signal output (Not used: ground)
18	V DET2	I	Low power voltage detection input (Not used: ground)
19	BAND	O	Band switching signal output “H”: AM, “L”: FM/TV (1 to 3 channels)
20	GND	–	Ground (Ground)
21	GND	–	Ground (Ground)
22	EO	O	PLL error signal output to PLL low-pass filter (Q401, 402)
23	VCOL	I	VCO input from FM/TV (1 to 3 channels)/AM local oscillator
24	VCOH	I	VCO input from TV (4 to 12 channels) local oscillator (Not used: open)
25	REG0	–	Terminal to which external capacitor for the circuit to generate the LCD drive voltage, is connected
26	VDD	–	Power supply input (3 V)
27	VDD	I	Power supply input (3 V)
28	X OUT	O	System clock output (75 kHz)
29	X IN	–	System clock input (75 kHz)
30	REG 1	–	Terminal to which external capacitor for the circuit to generate the LCD drive voltage, is connected
31	REG LCD0	–	Terminal to which external capacitor for the circuit to generate the LCD drive voltage, is connected
32	CAP LCD0	–	Terminal to which external capacitor for the circuit to generate the LCD drive voltage, is connected
33	CAP2 LCD1	–	Terminal to which external capacitor for the circuit to generate the LCD drive voltage, is connected
34	REG LCD1	O	Terminal to which external capacitor for the circuit to generate the LCD drive voltage, is connected
35	COM0	O	Common signal output to LCD
36	COM1	O	Common signal output to LCD
37	COM2	–	Common signal output to LCD
38	NC	O	Not used (Ground)
39	COM3	O	Common signal output to LCD
40	LCD0	O	Segment signal output to LCD
41	LCD1	O	Segment signal output to LCD
42	LCD2	O	Segment signal output to LCD
43	LCD3	O	Segment signal output to LCD
44	LCD4	O	Segment signal output to LCD
45	NC	–	Not used (Ground)
46	LCD5	O	Segment signal output to LCD
47	LCD6	O	Segment signal output to LCD
48	LCD7	O	Segment signal output to LCD
49	LCD8	O	Segment signal output to LCD
50	LCD9	O	Segment signal output to LCD

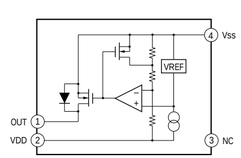
Pin No.	Pin Name	I/O	Description
51	LCD10	O	Segment signal output to LCD
52	LCD11	O	Segment signal output to LCD
53	LCD12	O	Segment signal output to LCD
54	NC	–	Not used (Open)
55	LCD13	O	Segment signal output to LCD
56	LCD14	O	Segment signal output to LCD
57	VDET1	I	Low power voltage detection input. “L”: 1.9 V or less (Entering the clock mode)
58	HOLD	I	Hold switch (S401) input detection terminal “L”: hold
59	NC	–	Not used (Open)
60	BEEP	O	Beep sound signal output
61	NOISE CUT	O	Noise filter circuit control signal output
62	LCD STB	–	Not used (Open)
63	CLK	–	Detection input (High level)
64	DATA IN	I	2 band/3 band detection input

*1 Key Matrix

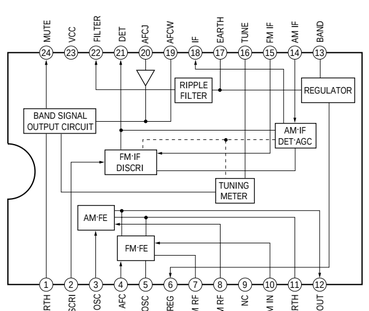
	KS0(⑦ pin)	KS1(⑧ pin)	KS2(⑨ pin)	KS3(⑩ pin)
KR0 (⑪ pin)	S502 1	S506 POWER	S509-1 ENT/BAND	S510 5
KR1 (⑬ pin)	S503 4	S507 NOISE CUT	S509-2 (JOG SW–)	——
KR2 (⑭ pin)	S504 2	——	——	S511 6
KR3 (⑮ pin)	S505 3	S508 SETTING	S509-3 (JOG SW+)	S512 7

• IC BLOCK DIAGRAMS

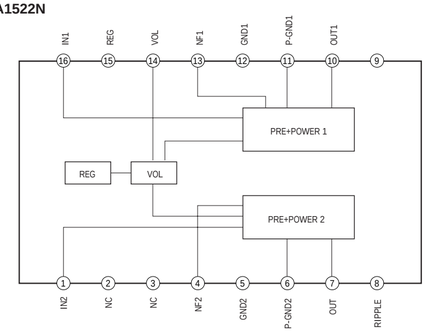
IC503 S-80819ANNP
IC505 S-80821ANNP



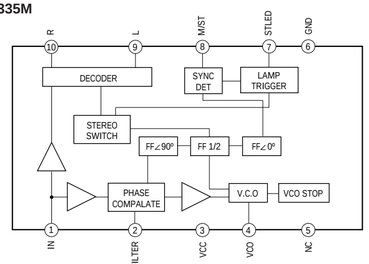
IC201 CXA1111N


MUTE VCC FILTER DET AFCJ AFCW IF EARTH TUNE FM IF AM IF BAND
24 23 22 21 20 19 18 17 16 15 14 13
RIPPLE FILTER
REGULATOR
BAND SIGNAL OUTPUT CIRCUIT
AM·IF DET AGC
FM·IF DISCRI
TUNING METER
AM·FE
FM·FE
1 2 3 4 5 6 7 8 9 10 11 12
EARTH DISCRI AM OSC AFC FM OSC REG FM RF AM RF NC FM IN EARTH MIX OUT

IC401 CXA1522N


IN1 REG VOL NF1 GND1 P-GND1 OUT1
16 15 14 13 12 11 10 9
PRE+POWER 1
REG
VOL
PRE+POWER 2
1 2 3 4 5 6 7 8
IN2 NC NC NF2 GND2 P-GND2 OUT RIPPLE

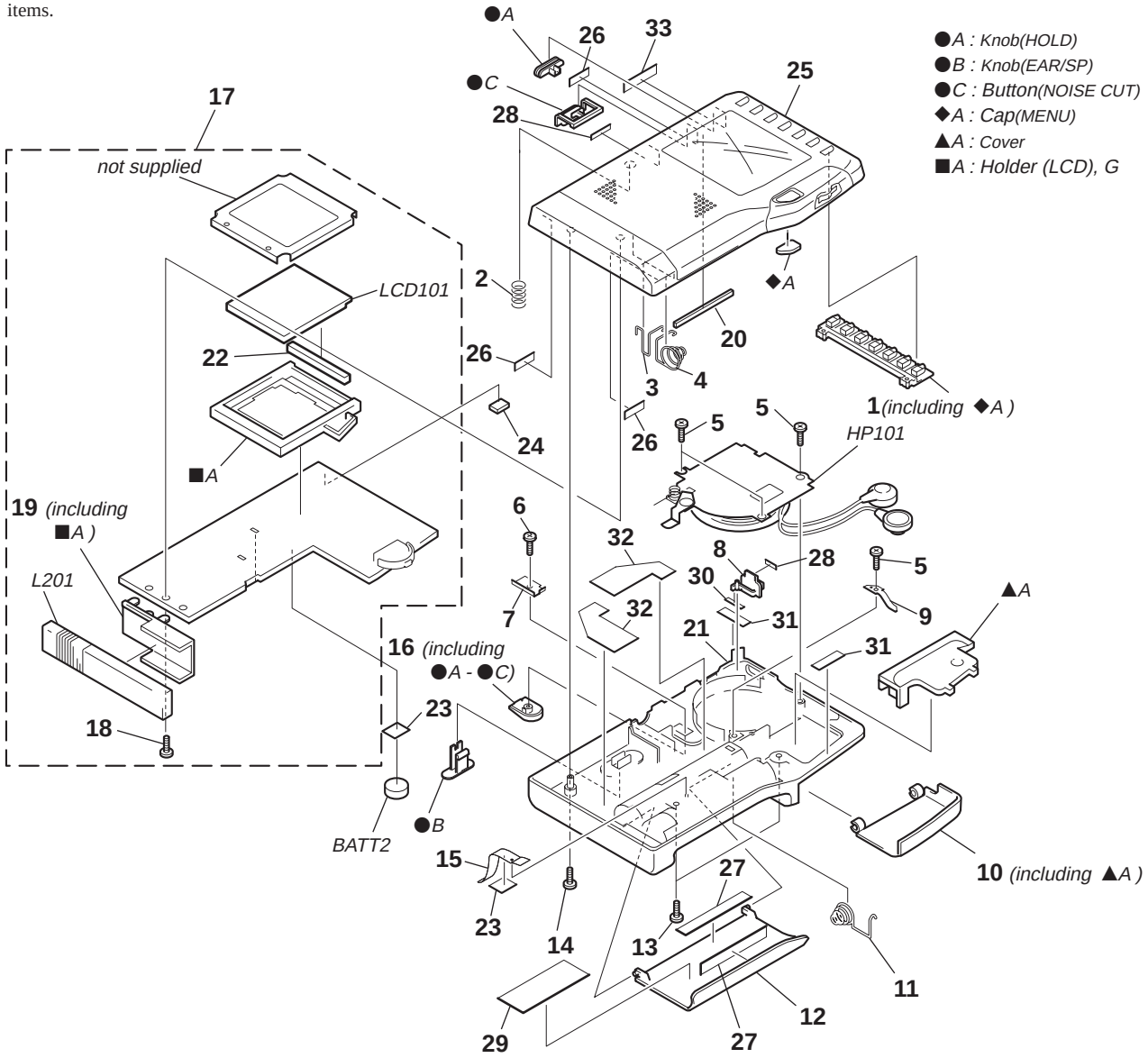
IC301 LA3335M



SECTION 5
EXPLODED VIEWS

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories and packing materials is given in the last of this parts list.



Ref. No.	Part No.	Description	Remarks
1	3-034-732-01	COMBINED (BUTTON)	
2	3-965-034-01	SPRING, COMPRESSION	
3	3-034-699-01	TERMINAL (+), BATTERY	
4	3-034-700-01	TERMINAL (–), BATTERY	
5	3-379-174-11	SCREW(+P1.4 × 4)	
6	3-032-525-01	SCREW(+P1.2 × 1.5)	
7	3-032-492-01	PLATE(REWIND)	
8	3-034-712-01	BUTTON (POWER)	
9	3-034-697-01	PLATE, CLICK	
10	3-034-715-01	COMBINED (COVER)	
11	3-034-718-01	TERMINAL (+/–), BATTERY	
12	3-034-703-01	LID,BATTERY CASE	
13	3-034-722-01	SCREW (M1.7 × 5), TAPPING	
14	3-036-917-01	SCREW, TAPPING (1.4 × 10)	
15	3-917-963-01	CLOTH, BATTERY PICK	
16	3-034-716-01	COMBINED (KNOB)	
* 17	A-3683-053-A	MAIN BOARD, COMPLETE	
18	3-316-938-51	SCREW (B1.4 × 6), TAPPING	

Ref. No.	Part No.	Description	Remarks
19	3-034-717-11	COMBINED (HOLDER)	
20	3-035-166-11	SPACER (LCD)	
21	3-034-702-11	CABINET (REAR)	
22	1-694-499-11	CONDUCTIVE BOARD, CONNECTION	
* 23	3-036-658-01	SHEET (SECONDARY BATTERY)	
24	3-036-660-01	SPACER (3 × 6)	
25	X-3377-656-1	CABINET (FRONT) ASSY (RP)	
26	3-038-780-01	SPACER (5 × 3)	
27	3-038-906-01	CUSHION (BATTERY CASE LID A)	
28	3-039-001-01	SPACER (1.5 × 5)	
29	3-038-907-01	CUSHION (BATTERY CASE LID B)	
30	3-038-774-01	SPACER (5 × 2)	
31	3-038-781-01	SHEET, ADHESIVE (2 × 5)	
32	3-038-853-01	SPACER (SHAFT)	
33	3-038-775-01	SPACER (12 × 1.8)	
L201	1-501-974-21	ANTENNA, FERRITE-ROD (MW)	
BATT2	1-528-412-11	BATTERY, PAS SECONDARY	
HP101	X-3377-652-1	REEL ASSY	
LCD101	1-803-512-11	PANEL, LIQUID CRYSTAL DISPLAY	

MAIN

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...

When indicating parts by reference number, please include the board name.

Ref. No.	Part No.	Description			Remarks
*	A-3683-053-A	MAIN BOARD, COMPLETE			
		**********			
	1-694-499-11	CONDUCTIVE BOARD, CONNECTION			
	3-034-717-11	COMBINED (HOLDER)			
	3-316-938-51	SCREW(B1.4 × 6), TAPPING			
		< CAPACITOR >			
C201	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C202	1-164-843-11	CERAMIC CHIP	3PF	0.25PF	16V
C203	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C204	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C205	1-164-858-11	CERAMIC CHIP	22PF	5%	16V
C206	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C207	1-164-844-11	CERAMIC CHIP	4PF	0.25PF	16V
C208	1-164-842-11	CERAMIC CHIP	2PF	0.25PF	16V
C209	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C210	1-165-325-11	CERAMIC CHIP	680PF	2%	50V
C211	1-165-324-11	CERAMIC CHIP	82PF	2%	50V
C212	1-127-807-91	CERAMIC CHIP	24PF	2%	50V
C215	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C216	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C217	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C218	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C219	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C220	1-164-346-11	CERAMIC CHIP	1uF		16V
C221	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C222	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C223	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C224	1-127-569-91	TANTAL. CHIP	100uF	20%	4V
C225	1-164-346-11	CERAMIC CHIP	1uF		16V
C301	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C302	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C303	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C304	1-115-416-11	CERAMIC CHIP	1000PF	5%	25V
C305	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C306	1-127-988-81	CERAMIC CHIP	0.015uF	10%	16V
C307	1-127-988-81	CERAMIC CHIP	0.015uF	10%	16V
C308	1-115-156-11	CERAMIC CHIP	1uF		10V
C309	1-115-156-11	CERAMIC CHIP	1uF		10V
C310	1-115-156-11	CERAMIC CHIP	1uF		10V
C311	1-115-156-11	CERAMIC CHIP	1uF		10V
C312	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C313	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C314	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C315	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C316	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C401	1-119-749-11	TANTAL. CHIP	33uF	20%	4V
C402	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C403	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C404	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C405	1-127-569-91	TANTAL. CHIP	100uF	20%	4V
C406	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C407	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C408	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C409	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C410	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C411	1-125-899-11	TANTAL. CHIP	220uF	20%	4V
C412	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C413	1-125-899-11	TANTAL. CHIP	220uF	20%	4V
C414	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C502	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C503	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C504	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C505	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C506	1-164-926-11	CERAMIC CHIP	220PF	5%	16V
C507	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C508	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C509	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C510	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C511	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C513	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C514	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C515	1-115-156-11	CERAMIC CHIP	1uF		10V
C518	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C528	1-115-156-11	CERAMIC CHIP	1uF		10V
C601	1-164-346-11	CERAMIC CHIP	1uF		16V
C602	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V
C603	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V
C604	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C605	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C606	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C701	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C702	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C703	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C704	1-164-864-11	CERAMIC CHIP	39PF	5%	16V
C705	1-164-854-11	CERAMIC CHIP	15PF	5%	16V
		< FILTER >			
CF201	1-767-480-11	FILTER, CERAMIC (AM)			
CF202	1-577-588-11	FILTER, CERAMIC			
CF203	1-781-419-71	FILTER, CERAMIC(DISCRIMINATOR)			
		< TRIMMER >			
CT201	1-141-482-21	CAP, ADJ 10PF			
CT202	1-141-482-21	CAP, ADJ 10PF			

Ref. No.	Part No.	Description	Remarks
		< DIODE >	
D201	8-719-023-99	DIODE KV1563M-3	
D202	8-713-102-96	DIODE 1T403-M20-T8A	
D203	8-713-102-96	DIODE 1T403-M20-T8A	
D204	8-719-046-91	DIODE MA2S111	
D401	8-719-800-76	DIODE 1SS226	
D501	8-719-071-34	DIODE RB521S-30-TE61	
D601	8-719-046-91	DIODE MA2S111	
D602	8-719-420-87	DIODE MA8130	
		< IC >	
IC201	8-752-065-30	IC CXA1111N	
IC301	8-759-804-98	IC LA3335M	
IC401	8-752-065-32	IC CXA1522N	
IC503	8-759-578-28	IC S-80819ANNP-EDG-T2	
IC505	8-759-568-85	IC S-80821ANNP-EDJ-T2	
IC506	8-759-568-82	IC uPD17073GB	
		< JACK >	
J401	1-785-831-21	JACK (🎧)	
		< COIL >	
L201	1-501-974-21	ANTENNA, FERRITE-ROD (MW)	
L202	1-416-903-21	COIL (WITH CORE)	
L203	1-412-977-11	INDUCTOR 0.68uH	
L204	1-414-693-11	INDUCTOR 150nH	
L205	1-406-493-11	COIL (AM OSC)	
L206	1-412-995-21	INDUCTOR 22uH	
L401	1-412-987-31	INDUCTOR 4.7uH	
L402	1-412-987-31	INDUCTOR 4.7uH	
L403	1-412-987-31	INDUCTOR 4.7uH	
		< LCD >	
LCD101	1-803-512-11	PANEL,LIQUID CRYSTAL DISPLAY	
		< TRANSISTOR >	
Q201	8-729-037-89	TRANSISTOR 2SC4627J-C(TX).SO	
Q203	8-729-037-71	TRANSISTOR UN9210J-(TX).SO	
Q204	8-729-037-92	TRANSISTOR 2SD2216J-R(TX).SO	
Q301	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q302	8-729-037-61	TRANSISTOR UN9113J-(TX).SO	
Q303	8-729-037-92	TRANSISTOR 2SD2216J-R(TX).SO	
Q304	8-729-037-71	TRANSISTOR UN9210J-(TX).SO	
Q305	8-729-037-92	TRANSISTOR 2SD2216J-R(TX).SO	
Q306	8-729-426-51	TRANSISTOR XP1210-TXE	
Q307	8-759-082-60	IC TC7S66FU	
Q401	8-729-037-53	TRANSISTOR 2SB1462J-QR(TX).SO	
Q501	8-729-037-92	TRANSISTOR 2SD2216J-R(TX).SO	
Q502	8-729-037-92	TRANSISTOR 2SD2216J-R(TX).SO	
Q507	8-729-823-86	TRANSISTOR 2SA1745	
Q508	8-729-037-71	TRANSISTOR UN9210J-(TX).SO	
Q601	8-729-037-92	TRANSISTOR 2SD2216J-R(TX).SO	
Q602	8-729-037-92	TRANSISTOR 2SD2216J-R(TX).SO	
Q603	8-729-037-71	TRANSISTOR UN9210J-(TX).SO	
Q604	8-729-800-71	TRANSISTOR 2SB815B7-TB	

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R201	1-218-965-11	RES,CHIP	10K	5%	1/16W
R202	1-218-989-11	RES,CHIP	1M	5%	1/16W
R203	1-218-977-11	RES,CHIP	100K	5%	1/16W
R204	1-218-977-11	RES,CHIP	100K	5%	1/16W
R205	1-218-969-11	RES,CHIP	22K	5%	1/16W
R206	1-218-965-11	RES,CHIP	10K	5%	1/16W
R207	1-218-947-11	RES,CHIP	330	5%	1/16W
R208	1-218-989-11	RES,CHIP	1M	5%	1/16W
R209	1-218-989-11	RES,CHIP	1M	5%	1/16W
R211	1-218-990-11	SHORT	0		
R212	1-218-945-11	RES,CHIP	220	5%	1/16W
R213	1-218-945-11	RES,CHIP	220	5%	1/16W
R214	1-218-965-11	RES,CHIP	10K	5%	1/16W
R215	1-218-929-11	RES,CHIP	10	5%	1/16W
R216	1-218-965-11	RES,CHIP	10K	5%	1/16W
R217	1-218-969-11	RES,CHIP	22K	5%	1/16W
R218	1-218-969-11	RES,CHIP	22K	5%	1/16W
R301	1-218-937-11	RES,CHIP	47	5%	1/16W
R302	1-218-970-11	RES,CHIP	27K	5%	1/16W
R303	1-218-977-11	RES,CHIP	100K	5%	1/16W
R304	1-218-985-11	RES,CHIP	470K	5%	1/16W
R305	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
R306	1-218-962-11	RES,CHIP	5.6K	5%	1/16W
R307	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
R308	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
R309	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
R312	1-218-990-11	SHORT	0		
R313	1-218-969-11	RES,CHIP	22K	5%	1/16W
R401	1-218-990-11	SHORT	0		
R402	1-218-953-11	RES,CHIP	1K	5%	1/16W
R403	1-218-959-11	RES,CHIP	3.3K	5%	1/16W
R404	1-218-937-11	RES,CHIP	47	5%	1/16W
R405	1-218-973-11	RES,CHIP	47K	5%	1/16W
R406	1-218-937-11	RES,CHIP	47	5%	1/16W
R407	1-218-973-11	RES,CHIP	47K	5%	1/16W
R408	1-218-941-11	RES,CHIP	100	5%	1/16W
R409	1-218-941-11	RES,CHIP	100	5%	1/16W
R502	1-218-965-11	RES,CHIP	10K	5%	1/16W
R504	1-218-989-11	RES,CHIP	1M	5%	1/16W
R508	1-218-965-11	RES,CHIP	10K	5%	1/16W
R509	1-218-953-11	RES,CHIP	1K	5%	1/16W
R510	1-218-965-11	RES,CHIP	10K	5%	1/16W
R511	1-218-965-11	RES,CHIP	10K	5%	1/16W
R514	1-218-953-11	RES,CHIP	1K	5%	1/16W
R515	1-218-973-11	RES,CHIP	47K	5%	1/16W
R516	1-218-977-11	RES,CHIP	100K	5%	1/16W
R517	1-218-953-11	RES,CHIP	1K	5%	1/16W
R518	1-218-953-11	RES,CHIP	1K	5%	1/16W
R519	1-218-953-11	RES,CHIP	1K	5%	1/16W
R520	1-218-953-11	RES,CHIP	1K	5%	1/16W
R521	1-218-953-11	RES,CHIP	1K	5%	1/16W
R522	1-218-953-11	RES,CHIP	1K	5%	1/16W
R523	1-218-953-11	RES,CHIP	1K	5%	1/16W
R524	1-218-953-11	RES,CHIP	1K	5%	1/16W
R525	1-218-965-11	RES,CHIP	10K	5%	1/16W
R526	1-218-977-11	RES,CHIP	100K	5%	1/16W
R527	1-218-965-11	RES,CHIP	10K	5%	1/16W
R528	1-218-965-11	RES,CHIP	10K	5%	1/16W
R529	1-218-965-11	RES,CHIP	10K	5%	1/16W
R530	1-218-965-11	RES,CHIP	10K	5%	1/16W

MAIN

Ref. No.	Part No.	Description			Remarks
R531	1-218-965-11	RES,CHIP	10K	5%	1/16W
R532	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
R544	1-218-977-11	RES,CHIP	100K	5%	1/16W
R545	1-218-989-11	RES,CHIP	1M	5%	1/16W
R546	1-218-929-11	RES,CHIP	10	5%	1/16W
R548	1-218-929-11	RES,CHIP	10	5%	1/16W
R549	1-218-971-11	RES,CHIP	33K	5%	1/16W
R550	1-218-985-11	RES,CHIP	470K	5%	1/16W
R601	1-218-953-11	RES,CHIP	1K	5%	1/16W
R602	1-218-981-11	RES,CHIP	220K	5%	1/16W
R603	1-218-977-11	RES,CHIP	100K	5%	1/16W
R604	1-218-973-11	RES,CHIP	47K	5%	1/16W
R605	1-218-937-11	RES,CHIP	47	5%	1/16W
R606	1-218-957-11	RES,CHIP	2.2K	5%	1/16W
R702	1-218-965-11	RES,CHIP	10K	5%	1/16W
R703	1-218-965-11	RES,CHIP	10K	5%	1/16W
R705	1-218-977-11	RES,CHIP	100K	5%	1/16W
		< VARIABLE RESISTOR >			
RV301	1-241-478-11	RES, ADJ, CERMET 10K			
RV401	1-225-744-11	RES, VAR, CARBON 20K/20K (◢VOL)			
		< SWITCH >			
S301	1-762-741-11	SWITCH, SLIDE (🎧/📻)			
S401	1-771-337-21	SWITCH, SLIDE (🎧/📻)			
S501	1-762-770-11	SWITCH, SLIDE (HOLD)			
S502	1-771-138-21	SWITCH, KEY BOARD (1)			
S503	1-771-138-21	SWITCH, KEY BOARD (4)			
S504	1-771-138-21	SWITCH, KEY BOARD (2)			
S505	1-771-138-21	SWITCH, KEY BOARD (3)			
S506	1-692-088-11	SWITCH, TACTILE (POWER)			
S507	1-692-088-11	SWITCH, TACTILE (NOISE CUT)			
S508	1-771-138-21	SWITCH, KEY BOARD (MENU)			
S509	1-771-568-21	SWITCH, LEVER SLIDE (JOG LEVER)			
S510	1-771-138-21	SWITCH, KEY BOARD (5)			
S511	1-771-138-21	SWITCH, KEY BOARD (6)			
S512	1-771-138-21	SWITCH, KEY BOARD (7)			
		< TRANSFORMER >			
T201	1-416-019-11	TRANSFORMER, IF (AM)			
T601	1-433-549-21	TRANSFORMER, DC/DC CONVERTER			
		< VIBRATOR >			
X701	1-767-388-11	VIBRATOR, CRYSTAL (75kHz)			

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MISCELLANEOUS
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BATT2	1-528-412-11	BATTERY, PAS SECONDARY			

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ACCESSORIES & PACKING MATERIALS
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	3-036-662-01	LABEL(BATTERY)			
	3-037-719-11	CASE,CARRYING			
	3-865-986-11	MANUAL, INSTRUCTION (JAPANESE, CHINESE)			
	3-865-986-21	MANUAL, INSTRUCTION (ENGLISH, KOREAN)			